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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,189	12/07/2000	Robert Miller	IBM/151	1431

26517 7590 09/20/2005

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EXAMINER

EL CHANTI, HUSSEIN A

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,189

Applicant(s)

MILLER, ROBERT

Examiner

Hussein A. El-chanti

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to amendment received on July 1, 2005. Claims 1, 22, 23 and 25 were amended. Claims 1-26 are pending examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites in step b) "a plurality of collectively managed as a group by the clustered computer system". It is unclear to what is being managed as a clustered computer system.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Murphy et al., U.S. Patent No. 6,138,251 (referred to hereafter as Murphy).

Murphy teaches the invention explicitly as claimed including a system and method for tracking object references in a clustered computer network (see abstract).

As to claims 1, Murphy teaches a method of determining a status of a peer protocol initiated on a plurality of members of a group in a clustered computer system (see col. 3 lines 32-36, a clustered computer nodes connected through a communications link), the method comprising:

(a) locally tracking protocol progress information for a peer protocol within each of a plurality of members collectively managed as a group by a clustered computer system wherein the peer protocol is of the type wherein each member of the group receives a message associated with the peer protocol and returns an acknowledgement in association with locally processing the peer protocol (see col. 4 lines 50-55 and col. 6 lines 54-col. 7 lines 7, the client tracks the protocol progress when downloading an object using object reference to track local progress and tracks progress of other members using foreign reference count by sending messages and receiving acks); and

(b) responding to a query directed to a selected member of the group by providing the protocol progress information locally tracked by the selected member wherein the query comprises a request for the protocol progress information (see col. 7 lines 9-32, Client A sends a foreign ref count to client B, client B will determine that B already has the reference and respond to A by sending a DEC message to node A).

As to claim 14, Murphy teaches an apparatus, comprising:

(a) a memory (see col. 6 lines 1-20); and

(b) a program resident in the memory, the program configured to determine a status of a peer protocol initiated on a plurality of members of a group in a clustered computer system by locally tracking protocol progress information within at least one member of the group (see col. 4 lines 50-55 and col. 6 lines 54-col. 7 lines 7, the client tracks the protocol progress when downloading an object using object reference to track local progress and tracks progress of other members using foreign reference count by sending messages and receiving acks), and

providing the protocol progress information locally tracked by a member of the group in response to a query directed to such member, wherein the peer protocol is of the type wherein each member of the group receives a message associated with the peer protocol and returns an acknowledgement in association with locally processing the peer protocol and responding to a query directed to a selected member of the group by providing the protocol progress information locally tracked by the selected member wherein the query comprises a request for the protocol progress information (see col. 7 lines 9-32, Client A sends a foreign ref count to client B, client B will determine that B already has the reference and respond to A by sending a DEC message to node A).

As to claim 22, Murphy teaches a clustered computer system, comprising:

(a) a plurality of nodes coupled to one another over a network (see col. 4 lines 50-55, the client tracks the protocol progress when downloading an object using object reference);

(b) a plurality of member jobs defining a group and configured to be executed by at least one of the plurality of nodes, (see col. 4 lines 50-55 and col. 6 lines 54-col. 7

lines 7, the client tracks the protocol progress when downloading an object using object reference to track local progress and tracks progress of other members using foreign reference count by sending messages and receiving acks); and

(c) a program configured to be executed by at least one of the plurality of nodes to determine a status of a peer protocol initiated on the plurality of members by locally tracking protocol progress information within at least one member of the group, and providing the protocol progress information locally tracked by a member of the group in response to a query directed to such member wherein the peer protocol is of the type wherein each member of the group receives a message associated with the peer protocol and returns an acknowledgement in association with locally processing the peer protocol and responding to a query directed to a selected member of the group by providing the protocol progress information locally tracked by the selected member wherein the query comprises a request for the protocol progress information (see col. 7 lines 9-32, Client A sends a foreign ref count to client B, client B will determine that B already has the reference and respond to A by sending a DEC message to node A).

As to claim 23, Murphy teaches a program product, comprising:

(a) a program configured to determine a status of a peer protocol initiated on a plurality of members of a group in a clustered computer system by locally tracking protocol progress information within at least one member of the group, and providing the protocol progress information locally tracked by a member of the group in response to a query directed to such member, wherein the peer protocol is of the type wherein each member of the group receives a message associated with the peer protocol and

returns an acknowledgement in association with locally processing the peer protocol and responding to a query directed to a selected member of the group by providing the protocol progress information locally tracked by the selected member wherein the query comprises a request for the protocol progress information (see col. 4 lines 50-55 and col. 6 lines 54-col. 7 lines 7, the client tracks the protocol progress when downloading an object using object reference to track local progress and tracks progress of other members using foreign reference count by sending messages and receiving acks); and

(b) a signal bearing medium bearing the program (see col. 4 lines 50-55, the client tracks the protocol progress when downloading an object using object reference).

As to claim 24, Murphy teaches the program product of claim 23, wherein the signal bearing medium includes at least one of a recordable medium and a transmission medium (see col. 4 lines 50-55).

As to claim 25, Murphy teaches an apparatus, comprising:

(a) a memory (see col. 4 lines 50-55); and

(b) a program, resident in the memory, the program configured to monitor for receipt of a query message by a member of a group in a clustered computer system while a current protocol for the member is waiting on a resource, the program further configured to output protocol status information in response to receipt of the query message (see col. 7 lines 9-32, Client A sends a foreign ref count to client B, client B will determine that B already has the reference and respond to A by sending a DEC message to node A).

As to claim 26, Murphy teaches the apparatus of claim 25, wherein the resource is selected from the group consisting of a local resource and an acknowledgment (ACK) message (see col. 4 lines 50-55).

As to claims 2 and 15, Murphy teaches the method and apparatus of claims 1 and 14 respectively, wherein locally tracking protocol progress information includes tracking, within a first member of the group, acknowledgment (ACK) messages directed to the first member by each other member of the group (see col. 7 lines 1-20).

As to claims 3 and 16, Murphy teaches the method and apparatus of claims 1 and 14 respectively, wherein locally tracking protocol progress information includes:

(a) tracking, within a first member of the group, a current acknowledgment (ACK) round for the first member, the current ACK round associated with a current peer protocol being processed by the first member (see col. 7 lines 1-20); and

(b) tracking, within the first member, a last ACK round received parameter associated with each other member of the group, the last ACK round received parameter for each other member identifying a peer protocol associated with a last received ACK message from such other member (see col. 7 lines 1-20).

As to claim 4, Murphy teaches the method of claim 3, wherein locally tracking protocol progress information further includes updating the current ACK round for the first member in response to receipt of ACK messages for the current peer protocol from all other members of the group (see col. 7 lines 1-20).

As to claim 5, Murphy teaches the method of claim 1, wherein locally tracking protocol progress information includes updating the protocol progress information for a

first member of the group in response to receipt of an acknowledgment (ACK) message directed to the first member (see col. 7 lines 1-20, the message count is INC or DEC in response to receiving a message).

As to claims 6 and 17, Murphy teaches the method and apparatus of claims 1 and 14 respectively, further comprising:

(a) waiting on a resource required by a protocol being processed on the selected member and

(b) monitoring for receipt of the query by the selected member while waiting on the resource (see col. 7 lines 1-20).

As to claims 7 and 18, Murphy teaches the method and apparatus of claims 6 and 17 respectively, wherein the protocol is a peer protocol, and wherein waiting on the resource includes waiting for receipt of an acknowledgment (ACK) message directed to the selected member (see col. 7 lines 1-20).

As to claims 8 and 19, Murphy teaches the method and apparatus of claims 6 and 17 respectively, wherein the protocol is a local protocol, and wherein waiting on the resource includes waiting on a local resource requested by the selected member (see col. 7 lines 1-20).

As to claims 9, Murphy teaches the method of claim 8, wherein the local resource is selected from the group consisting of a lock and a creation of a new job (see col. 4 lines 43-65).

As to claim 10, Murphy teaches the method of claim 6, wherein waiting on the resource includes waiting for receipt of a message by a local message queue for the

selected member, and wherein monitoring for receipt of the query includes monitoring the local message queue for receipt of a query message (see col. 7 lines 1-20).

As to claims 11 and 20, Murphy teaches the method and apparatus of claims 1 and 17 respectively, wherein locally tracking protocol progress information within each member of the group includes locally tracking within the selected member protocol progress information associated with at least one other member in the group (see col. 7 lines 1-20).

As to claims 12 and 21, Murphy teaches the method and apparatus of claims 1 and 17 respectively, wherein locally tracking protocol progress information within each member of the group includes locally tracking within the selected member protocol progress information associated with all other members in the group (see col. 7 lines 1-20).

As to claim 13, Murphy teaches the method of claim 1, wherein locally tracking protocol progress information within each member of the group includes locally tracking within each member protocol progress information associated with each other member in the group (see col. 6 lines 45-col. 7 lines 20).

Response to Arguments

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2157

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

Sep. 16, 2005


ARID ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNICAL STAFF